

4/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015080421 **Image available**
WPI Acc No: 2003-140939/200313
XRPX Acc No: N03-111882

Debugging a platform-independent virtual machine within a computer systems, where an agent on the platform-independent virtual machine provides a set of functions for accessing variables in the platform
Patent Assignee: SUN MICROSYSTEMS INC (SUNM); SOKOLOV S (SOKO-I); WALLMAN D (WALL-I)

Inventor: SOKOLOV S; WALLMAN D
Number of Countries: 100 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200303215	A2	20030109	WO 2002US19690	A	20020621	200313 B
US 20030028861	A1	20030206	US 2001895903	A	20010628	200313
AU 2002316324	A1	20030303	AU 2002316324	A	20020621	200452

Priority Applications (No Type Date): US 2001895903 A 20010628

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200303215	A2	E	16	G06F-011/36	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

US 20030028861	A1	G06F-009/44
AU 2002316324	A1	G06F-011/36 Based on patent WO 200303215

Abstract (Basic): WO 2003003215 A2

NOVELTY - An agent is employed on the platform-independent virtual machine, which provides a set of functions for accessing variables in the platform-independent virtual machine. The agent examines the current state of the variables in the platform-independent virtual machine and informs the host machine. An operator of the host machine can then analyze the current state of the variables.

DETAILED DESCRIPTION - INDEPENDENT CLAIM included for the following: computer-readable storage medium; apparatus

USE - For computer systems, PDAs etc.

ADVANTAGE - Facilitates debugging a platform-independent virtual machine.

DESCRIPTION OF DRAWING(S) - The diagram shows target machine target (108)

platform-independent virtual machine (202)

agent (204)

pp; 16 DwgNo 2/4

Title Terms: DEBUG ; PLATFORM; INDEPENDENT; VIRTUAL; MACHINE; COMPUTER; SYSTEM; AGENT; PLATFORM; INDEPENDENT; VIRTUAL; MACHINE; SET; FUNCTION; ACCESS; VARIABLE; PLATFORM

Derwent Class: T01

International Patent Class (Main): G06F-009/44; G06F-011/36

File Segment: EPI

10/5/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
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03250844 **Image available**
COMPUTER SYSTEM

PUB. NO.: 02-226344 [JP 2226344 A]
PUBLISHED: September 07, 1990 (19900907)
INVENTOR(s): MIYAMOTO SHINICHI
SHIMIZU TAKESHI
APPLICANT(s): FUJI XEROX CO LTD [359761] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 01-047976 [JP 8947976]
FILED: February 27, 1989 (19890227)
INTL CLASS: [5] G06F-011/14; G06F-009/46; G06F-011/28
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 1135, Vol. 14, No. 534, Pg. 45,
November 26, 1990 (19901126)

ABSTRACT

PURPOSE: To improve the efficiency of **debugging** processing by referring to and changing states of a virtual memory and a **virtual machine** in accordance with an inputted command at the time of the occurrence of error, by which execution of a program cannot be continued, in the **virtual machine**.

CONSTITUTION: A **virtual machine** part 2 reads out the program from a virtual storage part 1 and interprets and executes it, and the **virtual machine** part 2 outputs error information when recognizing the occurrence of error, by which execution of the program cannot be continued, in its own **virtual machine** during the execution of the program. A **debugger** command executing part 5 of a **debugger** 3 refers to and changes values of **variables**, states of stacks, etc., of the virtual storage part 1 in accordance with the command. When error information is inputted from the **virtual machine** part 2 to an error detecting part 6, this part 6 indicates switching to an input/output switching part 7, and this part 7 disconnects the **virtual machine** part 2 and an input/output part 8 and connects the **debugger** 3 and the input/output part 8. Thus, the efficiency of **debugging** processing is improved.

10/5/4 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014009405 **Image available**
WPI Acc No: 2001-493619/200154
XRPX Acc No: N01-365506

Debug **system of routine-work program for handheld terminals, performs symbolic debug by integrating debug function in interpreter and communicating with host computer and handheld terminal**

Patent Assignee: PENTEL KK (PENL)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2001184230	A	20010706	JP 99370382	A	19991227	200154 B

Priority Applications (No Type Date): JP 99370382 A 19991227

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001184230	A		12	G06F-011/28	

Abstract (Basic): JP 2001184230 A

NOVELTY - An interpreter performs interpretation execution of a **virtual machine** language in a handheld terminal (2) using a compiler which outputs the **virtual machine** language. A symbolic **debug** is performed by integrating a **debug** function in an interpreter and communicating with a host computer and the handheld terminal.

USE - **Debug** system of routine-work program for handheld terminals.

ADVANTAGE - **Debug** function is performed without applying load to the interpreter and the execution program, beside handheld terminal. The operation of handheld terminal and the display of **variable** are confirmed by the co-operation with a host computer and source program, without performing re-compiler to symbolic **debugs**, thereby simple **debug** operation is obtained.

DESCRIPTION OF DRAWING(S) - The figure shows the perspective diagram of handheld terminal. (Drawing includes non-English language text).

Handheld terminal (2)
pp; 12 DwgNo 2/17

Title Terms: **DEBUG** ; SYSTEM; ROUTINE; WORK; PROGRAM; TERMINAL; PERFORMANCE ; SYMBOL; **DEBUG** ; INTEGRATE; **DEBUG** ; FUNCTION; INTERPRETATION; COMMUNICATE; HOST; COMPUTER; TERMINAL

Derwent Class: T01

International Patent Class (Main): G06F-011/28

International Patent Class (Additional): G06F-009/445

File Segment: EPI

Set	Items	Description
S1	11313	DEBUG? OR (BUG OR FAULT OR FLAW OR ERROR) (N) (DETECT? OR FIND? OR LOCAT? OR CORRECT?) (7N) (SOFTWARE? OR TOOL? OR MODULE? - OR APPLICATION?)
S2	1322	VIRTUAL()MACHINE?
S3	14735	(VARIABLE OR CURRENT) (2N) (STATE? OR STATUS)
S4	1	S1 AND S2 AND S3
S5	62299	SOFTWARE() (ROBOT? OR AGENT?) OR IA OR INTELLIGENT()AGENT? - OR SOFTBOT?
S6	53	S3 AND S5
S7	0	S6 AND (VM OR VIRTUAL()MACHINE? OR HANDHELD? OR PORTABLE? - OR MOBILE? OR CELLPHONE? OR PDA OR PERSONAL()DIGITAL()ASSISTANT? OR PALM OR PALMTOP)
S8	2	S6 AND IC=(G06F-009? OR G06F-011?)
S9	5	S1 AND S2 AND VARIABLE?
S10	4	S9 NOT (S4 OR S8)
S11	142732	DEBUG? OR (BUG OR BUGS OR FAULT? OR FLAW? OR ERROR?) (2N) (DETECT? OR IDENTIF? OR FIND? OR LOCAT? OR CORRECT?) OR DEBUG? - OR EMULAT?
S12	312	S11 AND S3
S13	0	S12 AND S5
S14	11	S12 AND (HANDHELD? OR PALMTOP? OR PALM OR PDA OR CELLPHONE? OR SMARTPHONE? OR MOBILE? OR PDA OR PERSONAL()DIGITAL()ASSISTANT? OR PALM)
S15	0	S11 AND S3 AND S5
S16	312	S11 AND S3
S17	2	(VM OR S2 OR JAVA OR ACTIVE()X OR APPLET?) AND S16
S18	13	S14 OR S17
S19	12	S18 NOT (S8 OR S9 OR S10)
S20	40923	S11 AND (PROGRAM? OR CODE? OR SOFTWARE? OR APPLICATION? OR OS OR OPERATING()SYSTEM?)
S21	133	S20 AND (STATE OR STATUS) (3N) (CURRENT? OR VARIABLE?)
S22	1	S21 AND (VM OR S2 OR JAVA OR ACTIVE()X OR APPLET?)
S23	0	S22 NOT S19

File 347:JAPIO Nov 1976-2004/Oct(Updated 050208)

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File 350:Derwent WPIX 1963-2005/UD,UM &UP=200510

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23/5/1 (Item 1 from file: 350)
DIALOG(R) File 350: Derwent WPIX
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016755695 **Image available**
WPI Acc No: 2005-079973/200509
XRPX Acc No: N05-070338

**Computer e.g. desktop computer, program, error e.g. syntax error ,
identifying method, involves responding to receiving step-back command
from user input device by recalling and displaying instruction that
generated exception**

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: MORGAN F F

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040268310	A1	20041230	US 2003610187	A	20030630	200509 B

Priority Applications (No Type Date): US 2003610187 A 20030630

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20040268310	A1	7	G06F-009/44	

Abstract (Basic): US 20040268310 A1

NOVELTY - The method involves responding to receiving a step-back command from a user input device by recalling and displaying an error-checking instruction that generated an exception. A **current** program **state** of a target computer program is reset to match a program state of the target program at which the exception was generated. The error-checking instruction is checked to determine if the exception has been generated.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(A) a programmable apparatus for **identifying errors** in a computer program

(B) a computer readable memory for causing a computer to **identify errors** in a target program having an error-checking instruction.

USE - Used for **identifying an error** e.g. syntax error and logical error, in a program of a computer such as desktop computer, notebook computer, **personal digital assistants (PDA)**, server, and **handheld** computer.

ADVANTAGE - The step-back command allows a programmer to readily step backwards through instructions in the computer program to **identify errors** in the computer program without added cost and overhead using additional files. The method thus allows a programmer to isolate the cause of the exception, without the undue repetition.

DESCRIPTION OF DRAWING(S) - The drawing shows a flowchart of a method of **identifying an error** in a target computer program.
pp; 7 DwgNo 3/3

Title Terms: COMPUTER; COMPUTER; PROGRAM; ERROR; SYNTAX; ERROR; IDENTIFY;
METHOD; RESPOND; RECEIVE; STEP; BACK; COMMAND; USER; INPUT; DEVICE;
RECALL; DISPLAY; INSTRUCTION; GENERATE

Derwent Class: T01

International Patent Class (Main): G06F-009/44

File Segment: EPI

23/5/4 (Item 4 from file: 350)
DIALOG(R) File 350: Derwent WPIX
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014564620 **Image available**
WPI Acc No: 2002-385323/200242
XRPX Acc No: N02-301718

State detection method for hierarchical networks, involves detecting states to be allocated to individual network elements based on status message received from respective elements

Patent Assignee: LUCENT TECHNOLOGIES INC (LUCE)
Inventor: KETTSCHAU H J; REICHENBACH J A
Number of Countries: 025 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1191803	A1	20020327	EP 2000308190	A	20000920	200242 B

Priority Applications (No Type Date): EP 2000308190 A 20000920

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 1191803	A1	E 13	H04Q-007/34	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): EP 1191803 A1

NOVELTY - The method involves detecting the states which can be allocated to unambiguously addressed individual network elements, based on the status message received from the respective elements. The detected states are signaled depending on the network topology.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Network-state detecting system; Computer program for network state detection

USE - For detecting state of hierarchially-structured network such as **mobile** radio network.

ADVANTAGE - Enables **detecting fault** messages of the individual network elements more efficiently. Signaling based on network topology reduces indication of redundant information and ensures direct detection of **current network state**.

DESCRIPTION OF DRAWING(S) - The figure shows a section of the hierarchially structured arrangement of network elements
pp; 13 DwgNo 2/5

Title Terms: STATE; DETECT; METHOD; HIERARCHY; NETWORK; DETECT; STATE;
ALLOCATE; INDIVIDUAL; NETWORK; ELEMENT; BASED; STATUS; MESSAGE; RECEIVE;
RESPECTIVE; ELEMENT

Derwent Class: T01; W01

International Patent Class (Main): H04Q-007/34

International Patent Class (Additional): H04M-003/22

File Segment: EPI

23/5/6 (Item 6 from file: 350)
DIALOG(R) File 350: Derwent WPIX
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013703446 **Image available**
WPI Acc No: 2001-187670/200119
XRPX Acc No: N01-134539

Error detector in mobile communication network, has controller
which controls light emission condition of light emitting element
corresponding to count value output by counter

Patent Assignee: ANRITSU CORP (ANRI)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2001016187	A	20010119	JP 99185139	A	19990630	200119 B

Priority Applications (No Type Date): JP 99185139 A 19990630

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2001016187	A	6	H04L-001/00	

Abstract (Basic): JP 2001016187 A.

NOVELTY - Signal of fixed period is counted n' times and count value (CN) is output. Circulation counter (21) repeats counting for preset period T0', based on which light emitting element (13) maintains **variable** light emission **state**. The counter is set at start of bit error measurement and stopped after measurement. A controller controls light emission of element (13) corresponding to output of count value.

USE - For **mobile** communication network, internet, public telephone network, satellite circuit network, etc.

ADVANTAGE - As area of console panel is reduced, size of entire apparatus becomes small. Damaging the function of warning can be prevented due to repeating change of light emission condition of light emitting element throughout.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram showing schematic component of **error detector**.

Light emitting element (13)

Circulation counter (21)

Count value (CN)

pp; 6 DwgNo 2/7

Title Terms: ERROR; DETECT; **MOBILE**; COMMUNICATE; NETWORK; CONTROL;
CONTROL; LIGHT; EMIT; CONDITION; LIGHT; EMIT; ELEMENT; CORRESPOND; COUNT;
VALUE; OUTPUT; COUNTER

Derwent Class: W01; W02; W05

International Patent Class (Main): H04L-001/00

International Patent Class (Additional): G01D-021/00; G08C-025/00;

H04L-025/02; H04L-029/14

File Segment: EPI

Set	Items	Description
S1	11313	DEBUG? OR (BUG OR FAULT OR FLAW OR ERROR) (N) (DETECT? OR FIND? OR LOCAT? OR CORRECT?) (7N) (SOFTWARE? OR TOOL? OR MODULE? OR APPLICATION?)
S2	1322	VIRTUAL()MACHINE?
S3	14735	(VARIABLE OR CURRENT) (2N) (STATE? OR STATUS)
S4	1	S1 AND S2 AND S3
S5	62299	SOFTWARE() (ROBOT? OR AGENT?) OR IA OR INTELLIGENT()AGENT? OR SOFTBOT?
S6	53	S3 AND S5
S7	0	S6 AND (VM OR VIRTUAL()MACHINE? OR HANDHELD? OR PORTABLE? OR MOBILE? OR CELLPHONE? OR PDA OR PERSONAL()DIGITAL()ASSISTANT? OR PALM OR PALMTOP)
S8	2	S6 AND IC=(G06F-009? OR G06F-011?)
S9	5	S1 AND S2 AND VARIABLE?
S10	4	S9 NOT (S4 OR S8)
S11	142732	DEBUG? OR (BUG OR BUGS OR FAULT? OR FLAW? OR ERROR?) (2N) (DETECT? OR IDENTIF? OR FIND? OR LOCAT? OR CORRECT?) OR DEBUG? OR EMULAT?
S12	312	S11 AND S3
S13	0	S12 AND S5
S14	11	S12 AND (HANDHELD? OR PALMTOP? OR PALM OR PDA OR CELLPHONE? OR SMARTPHONE? OR MOBILE? OR PDA OR PERSONAL()DIGITAL()ASSISTANT? OR PALM)
S15	0	S11 AND S3 AND S5
S16	312	S11 AND S3
S17	2	(VM OR S2 OR JAVA OR ACTIVE()X OR APPLET?) AND S16
S18	13	S14 OR S17
S19	12	S18 NOT (S8 OR S9 OR S10)
S20	40923	S11 AND (PROGRAM? OR CODE? OR SOFTWARE? OR APPLICATION? OR OS OR OPERATING()SYSTEM?)
S21	133	S20 AND (STATE OR STATUS) (3N) (CURRENT? OR VARIABLE?)
S22	1	S21 AND (VM OR S2 OR JAVA OR ACTIVE()X OR APPLET?)
S23	0	S22 NOT S19
S24	93	S16 AND IC=(G06F-009? OR G06F-011?)
S25	0	S24 AND (LIMITED OR LEAST OR SMALL OR MINOR OR LESS) (2N) (MEMOR? OR STORAGE? OR RAM OR ROM)
S26	48	S24 AND (RESOURC? OR MEMOR? OR STORAGE? OR CACHE? OR BUFFER? OR RAM OR ROM OR PROM OR EPROM OR EEPROM)
S27	45	S26 NOT AD=20010628:20030628
S28	44	S27 NOT AD=20030628:20050301
S29	43	S28 NOT (S8 OR S19 OR S9 OR S10)
S30	5	S29 AND IC=(G06F-009/44 OR G06F-011/36)
S31	103858	MC=(T01-F05G3 OR T01-J20C OR T01-S03)
S32	7	S31 AND S29
S33	12	S30 OR S32

File 347:JAPIO Nov 1976-2004/Oct(Updated 050208)

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File 350:Derwent WPIX 1963-2005/UD,UM &UP=200510

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33/5/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
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01988141 **Image available**
DEBUG SYSTEM FOR HIGH-LEVEL LANGUAGE PROGRAM

PUB. NO.: 61-202241 [JP 61202241 A]
PUBLISHED: September 08, 1986 (19860908)
INVENTOR(s): KINUGASA TAKASHI
KOBAYASHI KENZO
KAMIHATSU KAZUMI
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 60-044095 [JP 8544095]
FILED: March 06, 1985 (19850306)
INTL CLASS: [4] G06F-011/28 ; G06F-009/44
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 541, Vol. 11, No. 32, Pg. 103,
January 30, 1987 (19870130)

ABSTRACT

PURPOSE: To monitor a specific variable and to trace the state shift of the variable by storing the states of variables in a variable control area according to the tracing conditions shown by a control flag.

CONSTITUTION: A BASIC interpreter 9 extracts a command processing routine corresponding to a command out of a command processing subroutine group 4 and executes it through a decoding/executing part 2. Here a variable control flag 8 on a BASIC interpreter memory map (b) is turned on, the interpreter 9 is set under a variable control state. Then a variable is retrieved by a variable control processing part 5. If the corresponding variable is registered, a subroutine is executed according to the tracing conditions shown by a control flag 8'. Then the state of the variable is stored in a variable control area 7. Thus the executing state of the variable designated by the flag 8' can be known by referring to the contents of the area 7 after execution of the subroutine.

33/5/5 (Item 3 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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013571098 **Image available**
WPI Acc No: 2001-055305/200107
XRPX Acc No: N01-042810

Source code debugger for C-language, has coverage status monitor
detecting whether the updated value of the variable is saved on the
access status and displays the new and old variable value

Patent Assignee: NEC CORP (NIDE)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000315166	A	20001114	JP 99123880	A	19990430	200107 B
JP 3298554	B2	20020702	JP 99123880	A	19990430	200246

Priority Applications (No Type Date): JP 99123880 A 19990430

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2000315166	A		11	G06F-011/28	
JP 3298554	B2		11	G06F-011/28	Previous Publ. patent JP 2000315166

Abstract (Basic): JP 2000315166 A

NOVELTY - An **emulation memory** (101) stores the **debugged** variable and a coverage **memory** (102) stores the access **status** to the **variable** in **emulation memory** during the program execution. A coverage status monitor (110) monitors the access status and detects whether the updated value of the variable is saved on the access data. The new and old value of the **debugged** variable is displayed.

USE - For detecting modification of strange numerical value in the source program of C-language.

ADVANTAGE - Modification of strange numerical value to the name value can also be detected, since write-in status of **storage memory** is monitored. The change value of the variable is displayed along with old value, since the coverage **memory** specifies variable for which value is changed.

DESCRIPTION OF DRAWING(S) - The figure shows block diagram showing the component of the source data **debugger** .

Emulation memory (101)
Coverage memory (102)
Status monitor (110)
pp; 11 DwgNo 1/8

Title Terms: SOURCE; CODE; LANGUAGE; COVER; STATUS; MONITOR; DETECT; UPDATE
; VALUE; VARIABLE; SAVE; ACCESS; STATUS; DISPLAY; NEW; VARIABLE; VALUE

Derwent Class: T01

International Patent Class (Main): G06F-011/28

File Segment: EPI

33/5/6 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012263923 **Image available**
WPI Acc No: 1999-070029/199906
XRPX Acc No: N99-051323

Memory monitoring and debugging module for POST and BIOS code in PC -
responds to commands from external for monitoring locations of memory
and execute PROM code instructions

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: CRUMP D T; PANCOAST S T

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5850562	A	19981215	US 94266927	A	19940627	199906 B

Priority Applications (No Type Date): US 94266927 A 19940627

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5850562	A		18	G06F-001/24	

Abstract (Basic): US 5850562 A

The module is stored in a **PROM** and is executed before the OS is loaded into **RAM** and executed. Monitor commands are received from external responsive to which signal representing **current state** of CPU registers is transmitted to the external commanding unit. The state of the registers are modified. The **current state** of a **memory** location is notified to the commanding unit in response to its command, and the state of the location is modified on receiving further command.

Likewise, **debugger** commands received from the external are also responded to, by setting one breakpoint corresponding to a specific location in **RAM** and clearing it. The execution of **PROM** code by the CPU, at a specific code instruction is also triggered by an external command. The execution of the code allows access to portion of **RAM** corresponding to breakpoint, after the execution of the **PROM** code is stopped by the CPU. The CPU is also initiated to execute single **PROM** code instruction and transmit **current state** of register of CPU to external commanding unit.

ADVANTAGE - Provides low level monitor and **debugger** which is executed before completion of POST code execution. Enhances productivity of POST and BIOS code. Is easily invoked without need for keyboard, video subsystem and disk drive to be functional.

Dwg.4/5

Title Terms: **MEMORY** ; MONITOR; **DEBUG** ; MODULE; POST; CODE; RESPOND;
COMMAND; EXTERNAL; MONITOR; LOCATE; **MEMORY** ; EXECUTE; **PROM** ; CODE;
INSTRUCTION

Derwent Class: T01

International Patent Class (Main): G06F-001/24

International Patent Class (Additional): G06F-009/24 ; G06F-011/28 ;
G06F-011/34

File Segment: EPI

Set	Items	Description
S1	96162	VIRTUAL()MACHINE? OR VM? ? OR JAVA OR ACTIVE()X OR APPLET? OR JVM
S2	157287	(VARIABLE? OR CURRENT)(2N)(STATE? OR STATUS)
S3	72543	SOFTWARE()(ROBOT? OR AGENT?) OR IA OR INTELLIGENT()AGENT? - OR SOFTBOT? OR BOT OR BOTS
S4	640674	HANDHELD? OR PORTABLE? OR MOBILE? OR CELLPHONE? OR PDA OR - PERSONAL()DIGITAL()ASSISTANT? OR PALM OR PALMTOP
S5	288162	DEBUG? OR (BUG OR BUGS OR FAULT? OR FLAW? OR ERROR?)(2N)(D- TECT? OR IDENTIF? OR FIND? OR LOCAT? OR CORRECT?) OR DEBUG? - OR EMULAT?
S6	8202	S5 AND (HANDHELD? OR PALMTOP? OR PALM OR PDA OR CELLPHONE? OR SMARTPHONE? OR MOBILE? OR PDA OR PERSONAL()DIGITAL()ASSIST- ANT? OR PALM)
S7	1835	(LOW()LEVEL OR SIMPLE OR PRIMITIVE?)(3N)S5
S8	16	S2 AND S7
S9	1478	S2 AND S5
S10	19	S9 AND S1
S11	3	S9 AND S3
S12	42	S9 AND S4
S13	50	S7 AND S6
S14	125	S8 OR S10 OR S11 OR S12 OR S13
S15	84	RD (unique items)
S16	66	S15 NOT PY>2001
S17	41	S16 AND (VARIABLE? OR STATE? OR STATUS)
S18	41	S17 NOT PD=20010628:20040628
S19	41	S18 NOT PD=20040628:20050301
File	8: Ei	Compendex(R) 1970-2005/Jan W3 (c) 2005 Elsevier Eng. Info. Inc.
File	35: Dissertation	Abs Online 1861-2005/Jan (c) 2005 ProQuest Info&Learning
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Xab: A Tool for Monitoring PVM Programs

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Xab (X-window Analysis and **deBugging**) is a tool for run time monitoring of PVM (Parallel **Virtual Machine**) programs. PVM supports the programming of a network of heterogeneous computers as a single parallel computer. Using Xab, PVM programs can easily be instrumented and monitored. Xab uses PVM to monitor PVM programs. This makes Xab very **portable** but it leads to interesting issues of how to make Xab peacefully coincide with the programs it monitors. Xab consists of three main components, a user library, a monitoring program, and an X windows front end. The user library provides instrumented versions of the PVM calls. The monitoring program runs as a PVM process and gathers monitor events in the form of PVM messages. The Xab front end displays information graphically about PVM processes and messages. This paper discusses the design, implementation, and use of the Xab tool. Related work is briefly presented and contrasted with the approach taken with Xab. How Xab works and how it is used are discussed in detail. Finally, the **current status** of Xab is presented along with future directions of where the research may go from here....Monitoring, Parallel programming, **Debugging**, Real time.

Descriptors: *Monitoring; *Computer program verification; Computer programming; Computers; Libraries; Networks; Real time; Windows; Computer networks

Identifiers: *Software tools; PVM(Parallel **Virtual Machine**); NTISDODXA

Section Headings: 62B (Computers, Control, and Information Theory--Computer Software)

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